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ABSTRACT

Prior studies of hypnotic treatment of smoking have reported abstinence rates of between 17 and 88 percent at six months, but few have investigated procedures or forms of suggestions. To compare the effectiveness of positive and negative hypnotic suggestions and self-hypnosis for cessation of smoking, 32 subjects were assigned to one of four treatment groups: (1) negative suggestions alone; (2) negative suggestions plus self-hypnosis; (3) positive suggestions alone; and (4) positive suggestions plus self-hypnosis. Subjects also completed a series of smoking history questionnaires; the Self-Efficacy for Smoking Avoidance Questionnaire, to assess expectations for smoking cessation; and the Horn-Waingrow Scale, used to delineate types of smokers. Treatment involved three 1-hour sessions, with those not abstinent at post-treatment or follow-up receiving three additional sessions. Outcome was assessed at post-treatment and 1, 2, 3, and 6 months following the final treatment session. Results indicated that positive suggestions were more efficacious than negative. Treatment was most successful for subjects who did not see themselves as habitual smokers. While ratings of self-efficacy at pre-test and following treatment were not predictive of later self-efficacy, subjects' ratings at 1 month post-treatment were predictive of later self-efficacy ratings. (JAC)

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Hypnotic Treatment of Smoking¹

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This is a summary of research presented at the Ninety-First Annual Convention of the American Psychological Association, Anaheim, Ca., August, 1983. For a complete description of the paper write to Samuel A. Bastien IV, University of Vermont, Department of Psychology, John Dewey Hall, Burlington, Vermont 05405-0134.

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Abstract

Subjects were assigned to one of four treatment conditions in a hypnosis treatment program comparing the effects of positive and negative motivational focus for suggestions and the influence of self-hypnosis in reducing cigarette smoking. All subjects received three one-hour hypnosis sessions with those still smoking at the end of treatment and recidivists receiving three additional one-hour treatment sessions. The effects of additional treatment sessions, hypnotizability and other subject characteristics on outcome were also examined. Outcome was evaluated one, two, three, and six months from the end of treatment.

Hypnotic Treatment of Smoking

The present study investigated the effectiveness of positive and negative hypnotic suggestions, and self-hypnosis for cessation of cigarette smoking. Prior studies reported between 17% and 88% abstinence rates at six months, but most were uncontrolled (Holroyd, 1980). Few compared the effectiveness of procedures, or compared forms of suggestions. The present study compared suggestions offered by Spiegel (1970) and those by Kroger (1977). Follow-up sessions with recidivists and non-responders was an added component in this study.

Method

Subjects

Thirty-two subjects were self-referred to a private outpatient clinic. Subjects were assigned to one of the four treatment groups in a randomized block design matching for current smoking rate, length of time smoking, number of previous attempts to quit, and hypnotizability. The four treatment groups are as follows: (1) Kroger (negative) suggestions alone, (2) Kroger suggestions plus self-hypnosis, (3) Spiegel (positive) suggestions alone, and (4) Spiegel suggestions plus self-hypnosis.

The positive suggestion condition was based on Spiegel's (1970) procedure. This involved confronting the person with the need to protect his/her body, which is needed to live, from smoking as a poison to his/her body. The emphasis was on positive motivation, i.e., what the client is for rather than what s/he is against. This was expanded upon and examples given.

The negative suggestion condition utilized the procedure reported by Kroger (1977). Kroger's procedure emphasizes the conversion of the client's craving or urges for cigarettes into an aversion for them. Suggestions involved associating a horrible taste and smell with cigarettes and the negative effects on health and appearance.

Measures

Each subject completed a series of questionnaires about past and current smoking history, and demographic information. The Self-Efficacy for Smoking Avoidance questionnaire (DiClemente, 1981) to assess expectations for smoking cessation and the Horn-Waingrow scale (Ikard, Green, & Horn, 1969) utilized in delineating types of smokers were also administered. Hypnotizability was assessed by standardized audiotaped administration of the Harvard Group Scale of Hypnotic Susceptibility (Shor, & Orne, 1962) and the Inventory Scale of Hypnotic Depth (Field, 1965).

Outcome was assessed at post-treatment and one, two, three, and six months following the last treatment session. At each follow-up, subjects completed the follow-up and self-efficacy questionnaires. The hypnotizability measures were also administered at post-treatment and one month follow-up. At six month follow-up a saliva sample was obtained to determine saliva thiocyanate levels. The saliva thiocyanate measure represents a chemical marker for nicotine to provide objective verification of both subjective and behavioral smoking rate data.

Procedure

Each subject was asked to place their empty cigarette packages in a bag and to bring it in along with any unsmoked cigarettes to each session. This

allowed for a measure of each subject's smoking rate.

Subjects were required to pay ten dollars at the beginning of treatment. Three dollars to defray the cost of a saliva thiocyanate test, and the remaining seven a deposit to be returned at six month follow-up to subjects completing the research program regardless of outcome.

Treatment consisted of three weekly sessions. The first consisted of a discussion involving how each group member had attempted to quit before, for how long, why s/he began smoking again, what kept them smoking, and reasons for wishing to stop. After trance induction by eye fixation and progressive muscle relaxation the appropriate suggestions (i.e. Kroger or Spiegel) were given. During the last portion of the session the group discussed what had occurred.

During the second and third sessions there were preliminary discussions covering how each of the group members had fared during the week and problems they had encountered. The therapist focused on the positive components of what the subjects had accomplished. There followed repeated trances with the appropriate suggestions.

In the self-hypnosis conditions, subjects were taught to induce a trance and, while in trance, they were to review the appropriate set of suggestions. Subjects in the self-hypnosis conditions were asked to practice a minimum of four times a day and whenever they felt an urge to smoke.

Subjects not abstinent at post-treatment and those not abstinent at follow-up were given another treatment session. These additional sessions followed the same format described above for the second treatment session. A maximum of three additional sessions were available to each

subject, if necessary.

Figure 1 presents the project procedure in schematic form.

Insert Figure 1 about here

Results

Outcome

Results, to date, indicated that nine of 32 subjects were abstinent, yielding an overall treatment effectiveness rate of 28%. Breakdown of subjects across the treatment conditions is presented in Figure 2. Seven of 19 subjects receiving Spiegel's (positive) suggestions were abstinent while two of 15 subjects receiving Kroger's (negative) suggestions was abstinent ($\chi^2 = 4.26, p < 0.05$).

Insert Figure 2 about here

Figure 3 shows the mean daily number of cigarettes smoked for abstinent and nonresponders from baseline to six months posttreatment. A substantial decline in mean smoking rate occurred for all subjects during the treatment period. Seven subjects successful in becoming abstinent had done so without additional treatment sessions during the six months posttreatment. One abstinent subject relapsed during this period. Subjects still smoking at the end of treatment had reduced their daily smoking rate to an average of 67.8% from pretreatment levels. During additional sessions, two additional

subjects achieved abstinence. The average daily smoking rate of nonresponders increased to 93% of the pre-treatment rate by one month follow-up.

Insert Figure 3 about here

Individual characteristics

The sample was composed of chronic smokers who started at average age of 16.5 years and had continued smoking for an average of 17.94 years with 3.09 previous attempts at quitting. The average daily smoking rate at pre-treatment was 29.45 cigarettes per day. Demographic and smoking history are presented in Tables 1 and 2 for the total sample and by outcome. There were no differences between abstinent and non-abstinent subjects. However, analysis by group assignment indicated some trends toward differences the length of time subjects had been successful in previous attempts and in their global expectations for success in the treatment program. Subjects still smoking at the end of treatment were more likely to endorse themselves at pre-test as habitual smokers ($t = -2.94$, $df = 28$, $p < 0.01$). There were no differences between subjects in reasons for smoking.

Insert Table 1 and 2 about here

Figure 4 presents subjects ratings for self-efficacy from pre-test to six month follow-up by outcome group. There was no significant difference at pre-test for group assignment or between outcome groups. Abstinent subjects ratings increased significantly from pre-treatment to post-

treatment ($p < 0.001$) and differed significantly from non-abstinent subjects at post-treatment ($p < 0.02$). At one month follow-up subjects ratings of self-efficacy are predictive of future self-efficacy at two month ($r = 0.92$), three month ($r = 0.96$), and six month ($r = 0.92$) follow-up.

Insert Figure 4 about here

No significant differences were found for hypnotizability in treatment group assignment or outcome. However, as presented in Table 3 there was a trend for scores on the Harvard Group Scale of Hypnotizability to increase across repeated administrations. There was no consistent pattern ($r = 0.43$) of change from pre-test to post-test administrations while post-test to 1 month follow-up scores were highly related ($r = 0.82$).

Insert Table 3 about here

Conclusions

To date, results indicated an overall abstinence rate of 28% at six months. Positive suggestions were more efficacious than negative and the effects of adding self-hypnosis cannot yet be determined. Treatment for these chronic subjects was most successful with individuals who did not see themselves as habitual smokers. While ratings of self-efficacy at pre-test and following treatment were not predictive of later self-efficacy, subjects' ratings at one month posttreatment were predictive of later self-

efficacy ratings.

Further analyses will evaluate the influence of self-hypnosis and self-efficacy at one month follow-up in predicting relapse. Subjects' global ratings of expectations for smoking cessation and length of time subjects were previously successful in quitting will be examined more fully.

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TABLE 1
SUBJECT DEMOGRAPHICS

	TOTAL		
	<u>SAMPLE</u>	<u>ABSTINENT</u>	<u>SMOKING</u>
AGE	34.55	35.55	34.64
SEX			
Female	24	7	14
Male	8	2	6
EDUCATION (yrs.)	14.44	15.14	13.95
MARITAL STATUS			
Single	10	3	7
Married	16	4	12
Separated	2	-	2
Divorced	4	2	2
ANNUAL FAMILY INCOME	15-20,000	15-20,000	15-20,000

TABLE 2
SMOKING HISTORY

	TOTAL		
	<u>SAMPLE</u>	<u>ABSTINENT</u>	<u>SMOKING</u>
Age Started Smoking	16.5	17.33	15.91
Number Years They Have Currently Been Smoking	17.94	17.78	18.00
Number of Previous Attempts to Quit Smoking	3.09	3.33	3.00
Longest Amount of Time (mos.) Without Smoking	7.48	8.11	4.94
Amount of Time (yrs.) Since Last Attempted to Quit	3.48	3.62	2.40
Estimation of Present Smoking Rate (cigarettes per day)	29.45	22.22	32.41
Expectation for Success Now (%)	55.1	66.56	50.41
Does Spouse Smoke?	12	2	10
Amount	29.00	30.00	28.75
Number in Home Who Presently Smoke	0.73	0.67	0.81
Family Smoking History			
Did Father Smoke?	24	6	18
Amount	29.18	33.33	27.62
Did Mother Smoke?	22	4	18
Amount	20.18	15.00	22.12
Did Siblings Smoke?	24	6	18
Number	2.04	1.67	2.15

TABLE 3

HARVARD GROUP SCALE OF HYPNOTIC SUSCEPTIBILITY

Means and Standard Deviations for Entire Sample

	$\bar{x}$	SD
Pre-Test	6.50	2.32
Post-Test	7.10	2.42
1 Mo. Follow-Up	7.93	2.40

Pearson Correlation Coefficients

	Pre-Test	Post-Test
	*	
Post-Test	0.43	
		**
1 Mo. Follow-Up	0.41	0.82

*
p<0.05
**
p<0.001

Figure Captions

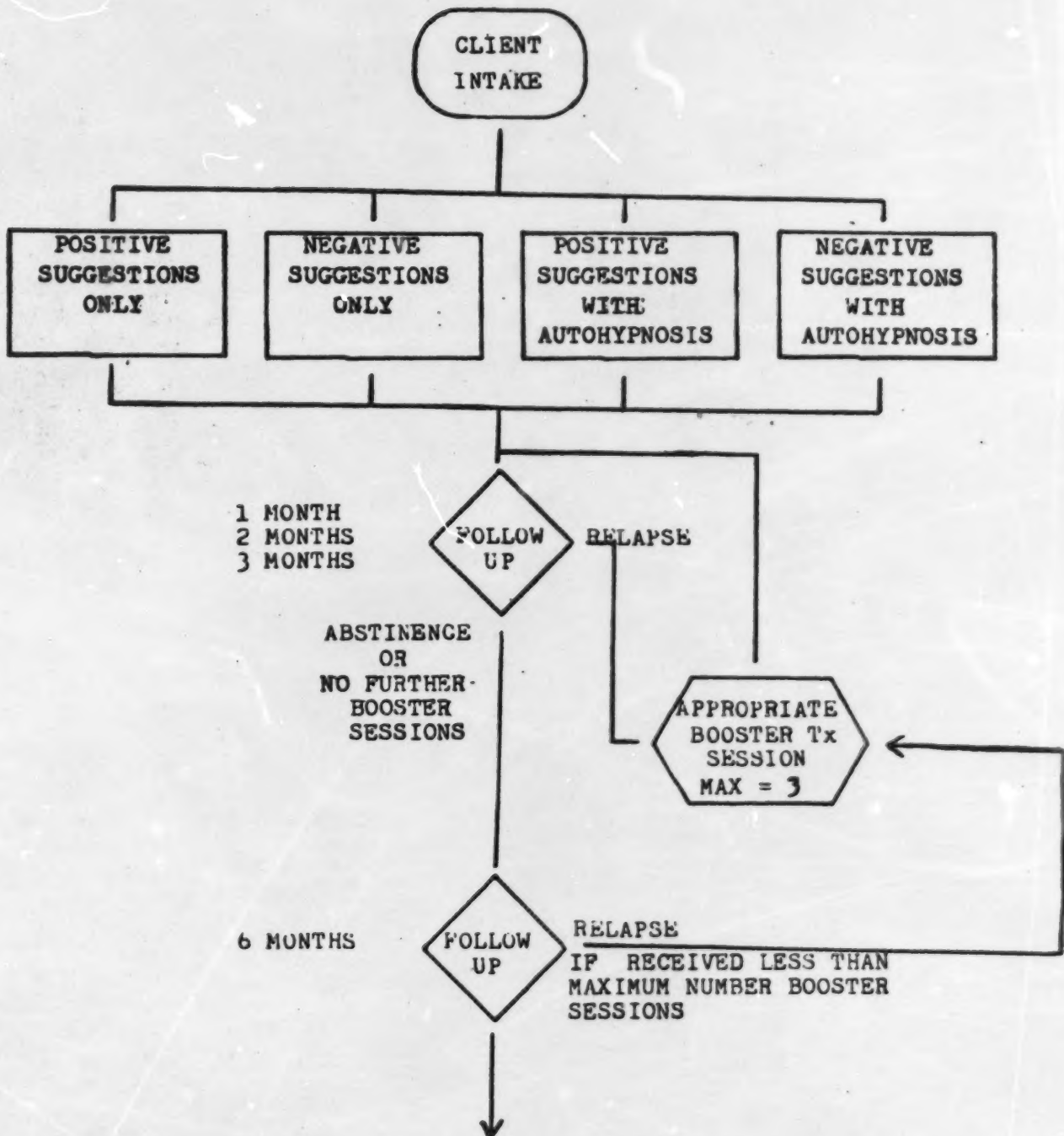
Figure 1. Schematic diagram of the treatment procedure.

Figure 2. Outcome of subjects for each treatment condition.

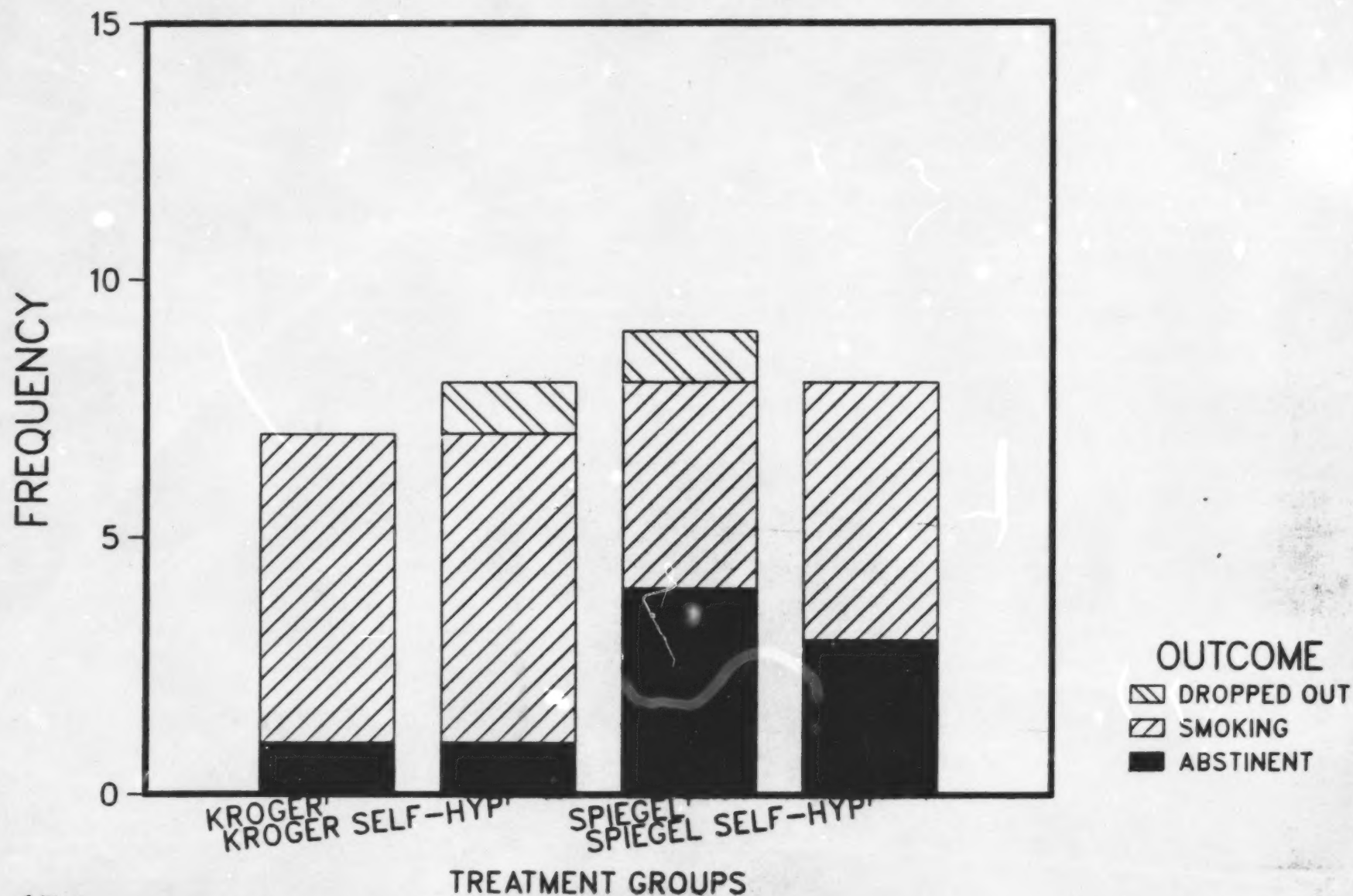
Figure 3. Average number of cigarettes smoked per day from pre-treatment to six month follow-up by outcome, abstinent versus still smoking.

Figure 4. Mean self-efficacy rating from pre-treatment to six month follow-up by outcome, abstinent versus still smoking.

TREATMENT PROGRAM DESIGN

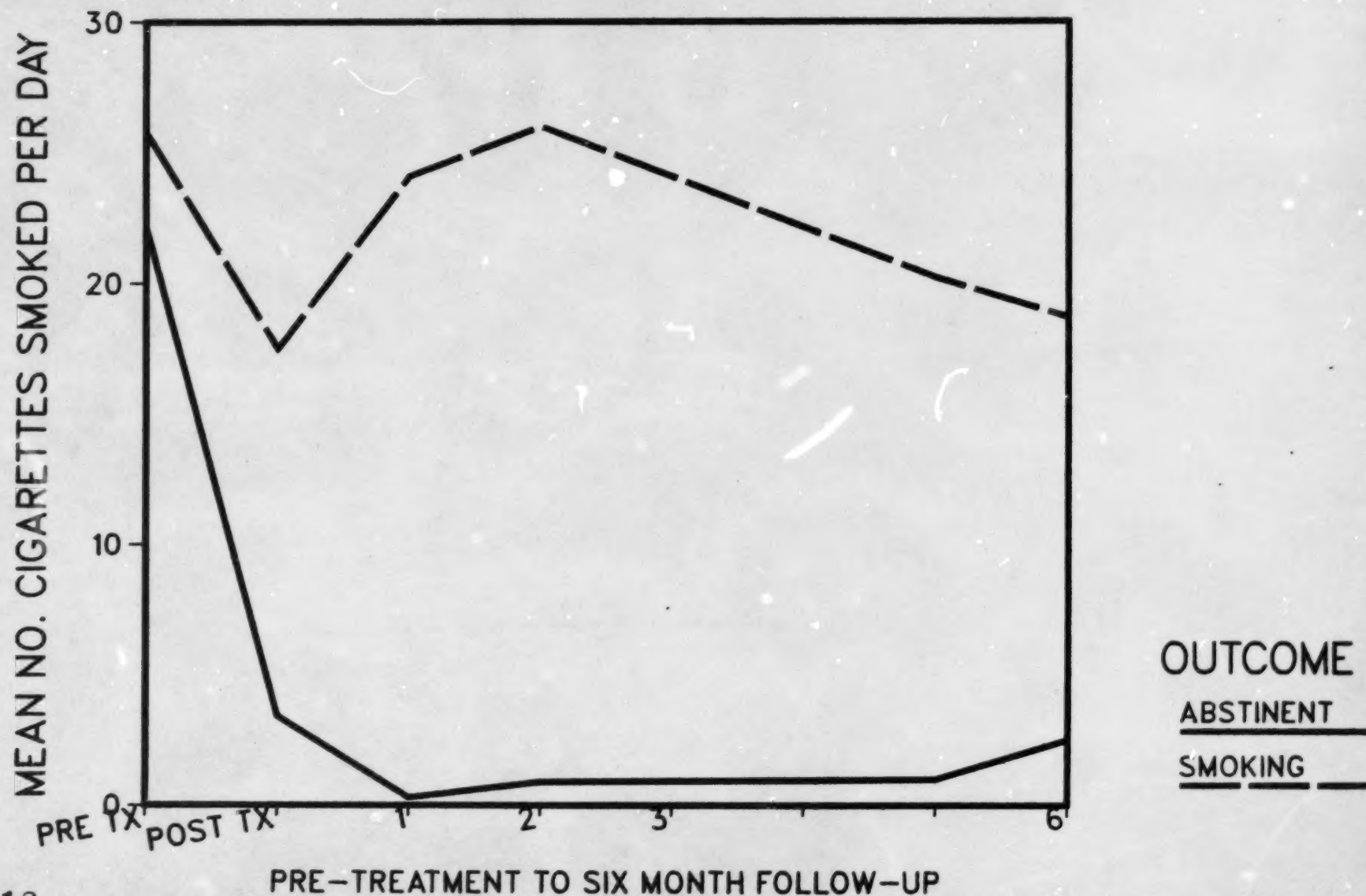


HYPNOTIC TREATMENT OF SMOKING OUTCOME BY TREATMENT GROUP



AS OF AUGUST 1983

HYPNOTIC TREATMENT OF SMOKING GROUP OUTCOME FOR SMOKING RATE



HYPNOTIC TREATMENT OF SMOKING GROUP OUTCOME FOR SELF-EFFICACY

